TABLE 1 DATA QUALITY OBJECTIVES

STEP 1: State the Problem

Waste from refining activities has been generated and has migrated in environmental media. Areas will be addressed in separate data quality objective (DQO) tables to reflect the appropriate source of contamination, means of release to the environment, contaminant of potential concern (COPCs), and receptors according to the conceptual site model (CSM) diagram (see generic CSM provided). The areas are:

- Lorraine Process Area
- Wilcox Process Area
- East Tank Farm/Tar Pit Area
- North Tank Farm/Loading Dock

Industrial/manufacturing processes at the Site have resulted in a release of contaminants to media creating primary sources of contamination. The problem for each area will be defined based on the type of the sources of contamination and the COPCs, the impacted media, and the potential for risk to human and ecological receptors.

STEP 2: Identify the Goals of the Study

The following goals will be established for each area:

1. Assess the extent lateral and vertical extent of contamination in the media affected at each area: surface/subsurface soil, groundwater, sediment, surface water and air; in the process, gather additional information on the transport mechanisms that are responsible for migration of contamination
2. Assess the areas and volumes of contaminated media that exceed applicable standards/risk-based levels
3. Determine if any of the current and future human and ecological receptors will be at risk due to the contamination at the site
4. Characterize waste remaining at the site

STEP 3: Identify Information Inputs

EPA HQ has conducted PA and ESI activities; these most recent data and the older available information will be evaluated to focus the RI activities to be performed at each area.

Regarding action levels for environments media, the following will be utilized:

1. Federal standards
2. EPA screening levels for residential and industrial scenarios
3. State-specific standards, if applicable

Waste action levels: waste samples will be analyzed using Toxicity Characteristic Leaching Procedure (TCLP) and analytical results should be compared to the values in 40 Code of Federal Regulations [CFR] Part 261 Table 1 (Maximum Concentration of Contaminants for the Toxicity Characteristic).

STEP 4: Define the Boundaries of the Study

For each area, the following will be defined:

1. Horizontal extent of contamination for each target medium and the area-specific COPCs.
2. Lateral extent contamination for each target medium and the area-specific COPCs.
3. Temporal boundary.

STEP 5: Develop the Analytic Approach

The analytic approach will be defined for each area and environmental medium; in addition, waste present at the site will be characterized.

1. Surface/subsurface soil: discrete and if appropriate IS, will be utilized for soil characterization.
2. Surface water/sediment: ponds and streams will be sampled to determine what contamination has migrated through surface run-off or seepage. Surface water and sediment samples will be collected based on receptors (human and ecological) that may be affected and means of transport of the contamination to the respective locations.
3. Groundwater: the hydrogeology of the area will be assessed and the potential of migration to groundwater evaluated.
4. Air: select areas where residents live will be evaluated for vapor intrusion.
5. For metals, analytical data in soil will be compared to local/regional background values.
6. For groundwater, upgradient data will be used to assess the origin of the contamination detected on site
7. For surface water and sediment, upstream data will be utilized to assess the origin of any contamination detected downstream.
8. Biota samples will be collected, if deemed necessary through the CSM.
9. Waste sample results will be compared to 40 CFR Part 261 Table 1

STEP 6: Specify Performance or Acceptance Criteria

Qualitative and quantitative data will be collected.

1. Test methods will be selected based such that the reporting limits will be adequate with respect to making the necessary comparison to the action levels/standards.
2. QC samples will be collected during this phase of sampling to evaluate sampling techniques and consistency.

STEP 7: Develop the Detailed Plan for Obtaining Data

To be discussed for each of the areas.